

CONTENTS

Volume 10, Issue Nos. 1-6 (1982)

EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

Issue No. 1, JANUARY-FEBRUARY

Non-parametric Identification of a Class of Non-linear Multidegree Dynamic Systems: S. F. Masri, G. A. Bekey, H. Sassi and T. K. Caughey	1
Impact Study by Various Bridge Models: A. Wiriyachai, K-H. Chu and V. K. Garg	31
Generation of Lateral and Rotational Floor Response Spectra by an Alternative Approach: M. F. Ishac and A. C. Heidebrecht	47
Energy Dissipation and Seismic Liquefaction in Sands: R. O. Davis and J. B. Berrill	59
Three-dimensional Hybrid Modelling of Soil-Structure Interaction: S. Gupta, J. Penzien, T. W. Lin and C. S. Yeh	69
Hydrodynamic and Foundation Interaction Effects in Frequency Response Functions for Concrete Gravity Dams: A. K. Chopra and S. Gupta	89
Buckling of Cylindrical Liquid-storage Tanks under Earthquake Loading: A. Niwa and R. W. Clough	107
An Improved Hammer-impact Technique for Strong Shear Wave Generation: T. Maiguma	123
Soil-Pile Interaction in Vertical Vibration Induced through a Frictional Interface: T. Akiyoshi	135
An Engineering Prediction Model of Acceleration Response Spectra and its Application to Seismic Hazard Mapping: T. Katayama	149
SHORT COMMUNICATIONS	
An Imposed Force Summation Method for Non-linear Dynamic Analysis: R. Dungar	165
A Note on the Perturbation Analysis of the Mode Shapes of Torsionally Coupled Buildings: T. G. Tsienias and G. L. Hutchinson	171
Discussion on 'A Note on the Perturbation Analysis of the Mode Shapes of Torsionally Coupled Buildings': C. L. Kan and A. K. Chopra	175
Authors' Reply	176
BOOK REVIEW	
ANNOUNCEMENTS	

Issue No. 2, MARCH-APRIL

Seismic Safety of Reinforced Concrete Members and Structures: H. Banon and D. Veneziano	179
The Effectiveness of Trenches in Reducing Seismic Motion: T. W. May and B. A. Bolt	195
Variability of Tall Building Response to Earthquakes with Changing Epicentre Direction: J. N. Yang, S. Sae-Ung and Y. K. Lin	211
Horizontally Travelling Waves in a Group of Piles Taking Pile-Soil-Pile Interaction into Account: J. P. Wolf and G. A. von Arx	225
Incremental Time-Space Finite Strip Method for Non-linear Structural Vibrations: Y. K. Cheung and S. L. Lau	239
Response of a Plate and Elastic Half-space to Harmonic Waves: W. L. Whittaker and P. Christiano	255
Non-linear Seismic Response of Arch Dams: A. Niwa and R. W. Clough	267

Apparent Propagation Velocity of Body Waves: M. J. O'Rourke, M. C. Bloom and R. Dobry	283
Considerations on the Residual Contribution in Modal Analysis: A. J. Salmonte	295
Two-dimensional Dynamic Analysis of Concrete Gravity and Embankment Dams Including Hydrodynamic Effects: J. F. Hall and A. K. Chopra	305
Hydrodynamic Effects in the Dynamic Response of Concrete Gravity Dams: J. F. Hall and A. K. Chopra	333
BOOK REVIEW	347
ANNOUNCEMENTS	347
<i>Issue No. 3, MAY-JUNE</i>	
Local Member Response in Offshore Structures under Earthquake Excitations: S. A. Anagnosopoulos and A. R. Culbertson	349
The Response of Veterans Hospital Building 41 in the San Fernando Earthquake: A. Rutenberg, P. C. Jennings and G. W. Housner	359
Optimum Absorber Parameters for Various Combinations of Response and Excitation Parameters: G. B. Warburton	381
Stochastic Response of Multistorey Yielding Frames: T. T. Baber and Y-K. Wen	403
Hydrodynamic Effects in Dynamic Response of Simple Arch Dams: C. S. Porter and A. K. Chopra	417
Investigation of the Elastic Characteristics of a Three-storey Steel Structure Using System Identification: I. Kaya and H. D. McNiven	433
Vibration Tests on Emosson Arch Dam, Switzerland: P. J. Deinum, R. Dungar, B. R. Ellis, A. P. Jeary, G. A. L. Reed and R. T. Severn	447
Three-dimensional Dynamic Analysis for Multi-component Earthquake Spectra: E. L. Wilson and M. R. Button	471
Seismic Design of Flexible Cylindrical Liquid Storage Tanks: T. Balendra, K. K. Ang, P. Paramasivam and S. L. Lee	477
Resistance of a Soil Layer to Horizontal Vibration of a Pile: M. T. Nielsen	497
SHORT COMMUNICATION	
Frequency-domain Redigitization Method for Seismic Time Histories: D. D. Liou	511
BOOK REVIEW	517
ANNOUNCEMENTS	517
<i>Issue No. 4, JULY-AUGUST</i>	
Diffraction of Plane SH Waves in a Half-space: A. H. Shah, K. C. Wong and S. K. Datta	519
A New Approach to the Integration of Accelerometer Data: D. M. Trujillo and A. L. Carter	529
The ρ -Family of Algorithms for Time-step Integration with Improved Numerical Dissipation: G. Bazzi and E. Anderheggen	537
Transient Response of a Thick Beam of Bimodular Material: C. W. Bert and A. D. Tran	551
Earthquake Strong Motions Recorded by a Large Near-source Array of Digital Seismographs: B. A. Bolt, Y. B. Tsai, K. Yeh and M. K. Hsu	561

CONTENTS

v

Engineering Analyses of SMART 1 Array Accelerograms: C. H. Loh, J. Penzien and Y. B. Tsai	575
Lead-Rubber Hysteretic Bearings Suitable for Protecting Structures during Earthquakes: W. H. Robinson	593
Seismic Risk Analysis for Northern Iraq: J. Puttonen and P. Varpasuo	605
Dynamic Characteristics of Coupled Wall-Frame Systems: A. K. Basu and G. Q. Dar	615
BOOK REVIEW	633
ANNOUNCEMENT	633

Issue No. 5, SEPTEMBER-OCTOBER

Motions of Rigid Bodies and Criteria for Overturning by Earthquake Excitations: Y. Ishiyama	635
ARMA Models for Earthquake Ground Motions: M. K. Chang, J. W. Kwiatkowski, R. F. Nau, R. M. Oliver and K. S. Pister	651
Vibration of Beams on Partial Elastic Foundations: P. F. Doyle and M. N. Pavlovic	663
Dynamic Behaviour of Rigid Foundations of Arbitrary Shape on a Halfspace: W. Rücker	675
Frequency Domain Analysis of Time Integration Operators: A. Preumont	691
Infinite Elements for Elastodynamics: F. Medina and J. Penzien	699
Phase Properties of a Class of Random Processes: N. C. Nigam	711
Natural Frequencies of Arch Dam Reservoir Systems—by a Mapping Finite Element Method: B. Nath	719
Modal Damping for Torsionally Coupled Buildings on Elastic Foundation: T. Balendra, C. W. Tat and S-L. Lee	735
BOOK REVIEW	757
IAEE NEWS	757
ANNOUNCEMENT	758

Issue No. 6, NOVEMBER-DECEMBER

A Re-evaluation of Equivalent Linear Models for Simple Yielding Systems: A. H. Hadjian	759
Bounds on Earthquake Response of Elastic Columns: G. Ahmadi and N. Mostaghel	769
Fatigue Life of Critical Members in a Railway Truss Bridge: V. K. Garg, K-H. Chu and A. Wiriyachai	779
An FFT Algorithm for Structural Dynamics: J. F. Hall	797
Dynamic Analysis by Direct Superposition of Ritz Vectors: E. L. Wilson, M-W. Yuan and J. M. Dickens	813
Free-field Response from Inclined SH-waves and Love-waves: J. P. Wolf and P. Obernhuber	823
Free-field Response from Inclined SV- and P-waves and Rayleigh-waves: J. P. Wolf and P. Obernhuber	847
Properties and Extensions of a Single-step Algorithm for Dynamic Problems: R. M. Thomas	871
ANNOUNCEMENTS	881
Author Index	882